

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 7502 (1974): Clamp, Intestine, Kocher's Pattern [MHD 1: Surgical Instruments]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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Indian Standard

## SPECIFICATION FOR CLAMP, INTESTINE, KOCHER'S PATTERN

**1. Scope** — Dimensional and other requirements of Kocher's pattern intestinal clamp used in general surgery.

**2. Shape and Dimensions** — As shown in Fig. 1.

**2.1 Joint** — Box type as in 6 of Section 2 of IS : 3642-1966 'General requirements for surgical instruments'.

**2.2 Serrations** — As given in Section 1 of IS : 3642-1966.

**2.3 Ratchet** — As given in Section 3 of IS : 3642-1966.

**3. Material** — Stainless steel conforming to Designation 20Cr13 or 30Cr13 of IS : 6603-1972 'Specification for stainless steel bars and flats'.

### 4. Workmanship and Finish

**4.1** The clamp shall be symmetrical and well balanced.

**4.2** The clamp shall be free from burrs, pits, cracks, scale and other surface defects.

**4.3** All edges shall be even and smooth.

**4.4** The component halves shall move easily, fully and freely at the joint without any undue play.

**4.5** On closure of the ratchets, the serrations shall engage accurately without over-riding or sticking.

**4.6** The clamp shall be polished bright and passivated.

**5. Heat Treatment** — The clamp shall be hardened and tempered to give a hardness of 430 to 490 HV.

### 6. Tests

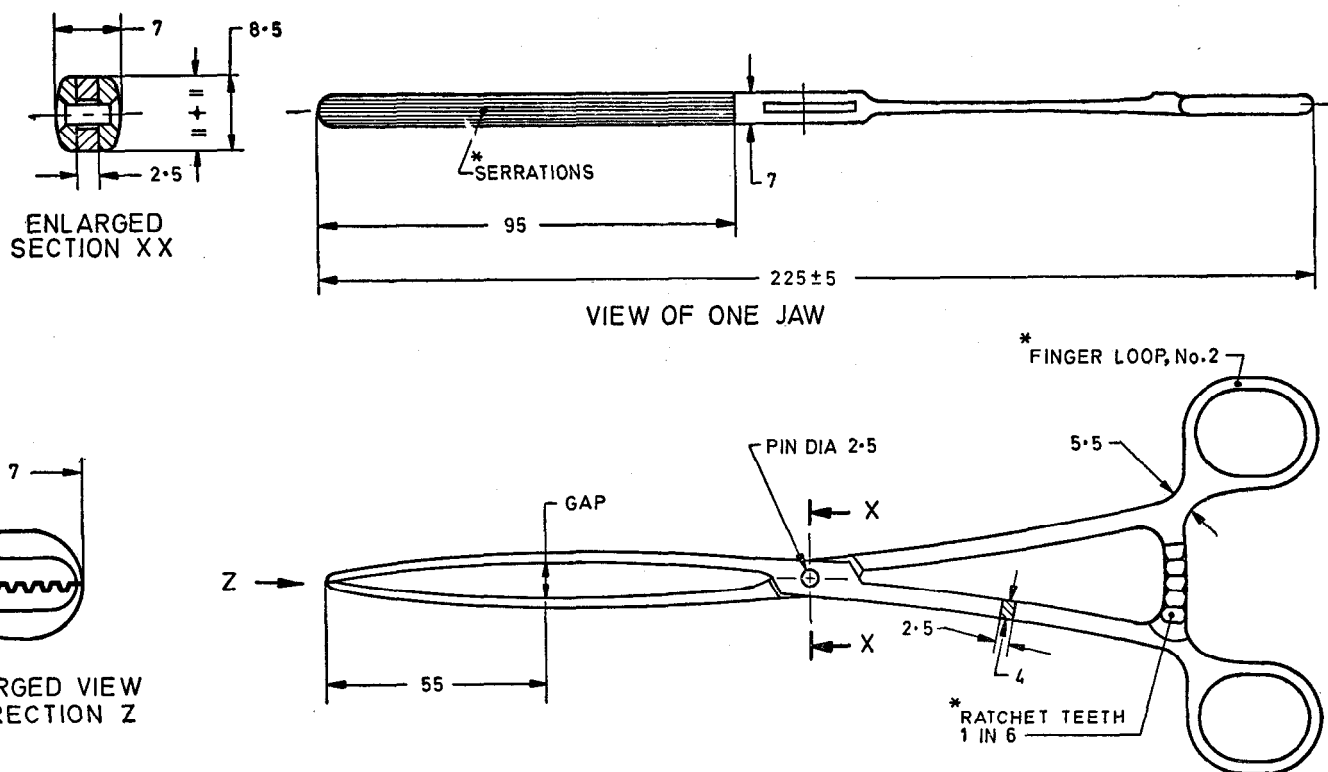
**6.1** Grip a piece of 6 mm thick hard vulcanized rubber with terminal 50 mm length of the serrations by closing the ratchet on the last tooth. On releasing the grip the instrument shall show no sign of damage.

**6.2 Load Closure** — The load for closure of various ratchet teeth and the corresponding gaps between the jaws shall be as given below:

No. of Ratchet	Gap mm	Load N
First	5.8	$4.5 \pm 2$
Second	4.5	$11.0 \pm 2.5$
Third	3.4	$18.0 \pm 4$
Fourth	2.4	$26.0 \pm 4$
Fifth	1.4	$32.0 \pm 5$
Sixth	0.3	$40.0 \pm 7$

**6.3 Flexibility** — One arm of the clamp shall be fixed in a vice at a point near the joint so that 100 mm of the arm, as measured from the surface of the vice jaws to the upper pole of the finger loop, protrudes above the vice.

By application of a gradual force at the upper pole of the finger loop the shank of the arm shall be deflected in a plane at right angles to the plane of the loop by 18 mm as measured at the upper pole of the finger loop. On release of the force, no permanent set shall be observed. The test shall be repeated on the other arm.



\*See IS : 3642-1966.

All dimensions in millimetres.

FIG. 1 CLAMP, INTESTINE, KOCHER'S PATTERN

**6.4 Corrosion Resistance** — Scrub the sample with soap and warm water and then dip in 95 percent ethyl alcohol. Dry the sample. Immerse in copper sulphate solution at room temperature for 6 minutes and wash off with fresh water or wet cotton wool. Composition of the solution shall be as follows:

Copper sulphate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ )	4.0 g
Sulphuric acid ( $\text{H}_2\text{SO}_4$ ) (sp gr 1.84)	10.0 g
Distilled water [ see IS : 1070-1960 Specification for water, distilled quality ( revised ) ]	90.0 ml

No red stains or spots on the sample shall be allowed but dulling of the polished surface may be permitted.

**7. Marking** — Each clamp shall be marked with the following:

- Manufacturer's name, initials or recognized trade-mark; and
- The words 'Stainless Steel'.

**7.1 ISI Certification Marking** — Details available with the Indian Standards Institution.

**8. Packing** — Each clamp shall be wrapped in moisture-proof paper or put in a polyethylene bag and then packed in a cardboard carton. The clamp may also be packed as agreed to between the purchaser and the supplier.